E.N.I.G.M.A.

European Numbers Information Gathering and Monitoring Association

JANUARY 16 th
1995

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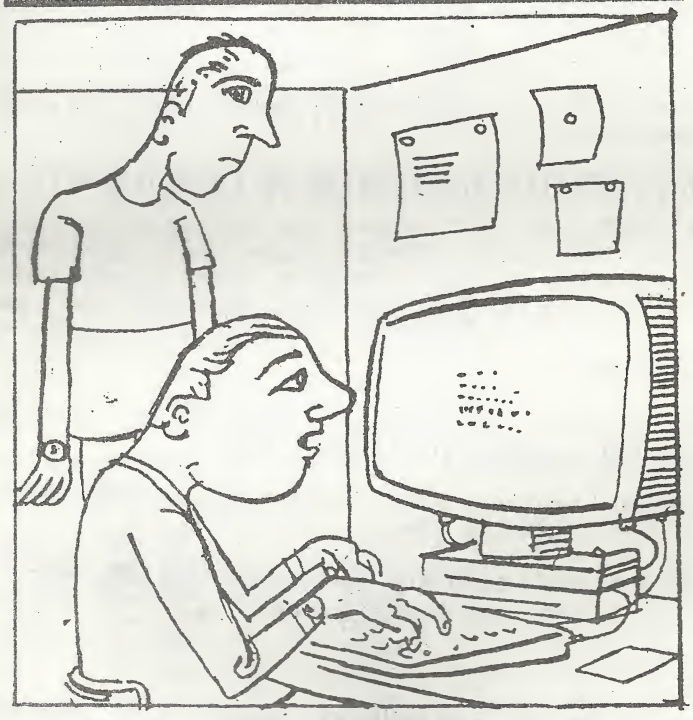
MICHAEL HEATH



'We could hack into the secrets of how this country is run and sell them to a foreign power to ruin it'

Our Address: ENIGMA NEWSLETTER
c/o B.R.C., 31 Manor Row, Bradford, West Yorkshire, BD1 4PS, England.

Station News and Latest Listening

ALL TIMES ARE U.T.C.

ENGLISH LANGUAGE STATIONS

LINCOLNSHIRE POACHER

10.00 to 14.45 on 14487 15682 16084
15.00 to 17.45 on 11545 12603 13375
18.00 to 22.45 on any three*/four of the following 4730 6485 6959 7337 9251 10426 11545

We have recently noted * 4730 kHz on [illegible] with 3 other transmitters giving 4 frequencies carrying the same message. The use of 4730 kHz is quite interesting, the frequency carries traffic from the RAF stations at Pitreavie in Scotland and Akrotiri, Cyprus.

Transmission from LP are running 13 hours per day, with less broadcasts at weekends.

Thanks to Michiel for the information on LP which will appear in issue 8.

CHERRY PICKER

No firm reports of this station this issue.

THREE FIGURE ENGLISH

This station continues to transmit most days, but is still erratic, goes quiet around Christmas time.

Most days at 08.20 between 9265 & 9292 (likes 9280.5) calling 274

Also noted 19.00 on 14760 kHz Wednesday calling 482 but not heard since.

READY READY

At present on its winter schedule, repeats all transmissions at 20 minute intervals e.g. h+00 h+20 h+40
h+30 h+50 h+10

Saturday	WK1	22.00	?	01	WK2	20.00	?
	WK1	22.20	3410	01	WK2	20.20	?
	WK1	22.40	4740	01	WK2	20.40	3910 04
					WK2	21.30	4740 04
					WK2	21.50	4460 04
					WK2	22.10	4270 04

Sunday No Transmissions received

(Hello to Derek 7). (P.Q. 492/5396/0042/-)

Monday	WK2/4	20.00	4740 04	WK2/3	21.30	4740 32
	WK2/4	20.20	3410 04	WK2/3	21.50	4460 32
	WK2/4	20.40	3910 04	WK2/3	22.10	?
Tuesday	WK1/2/	19.00	4740 06			
	& 3	19.20	3910 06			
		19.40	3410 06			
Wednesd	WK1	19.00	4740 84	WK1/2	23.00	5235 13
		19.20	3910 84	& 4	23.20	4740 13
		19.40	3410 84		23.40	4460 13
Wednesd	Unknown	03.40	4740 68			

NANCY ADAM SUSAN

Daily transmissions continue although are somewhat erratic

14.00	14000	Calling	FYS or FYP (14000 also used by Mossad).
16.30	6715	Calling	NAS
17.30	5835	Calling	MSA
20.00	5530	Calling	NAS
21.00	4130	Calling	MSA

Reception of this station is still poor in England, best reception is on the 14.00 transmission. I was looking through some old information and noted that in 1988 Libyan Jamahiriyah Broadcasting had used 18000 kHz SSB for early morning transmissions, this frequency was also used around this time by NAS, as reported by Langley Pierce in his book "Intercepting Number Stations", strange coincidence ?

N N N

Again operating on Winter frequencies to the following schedule

Monday	21.00	4644
Wednesday	04.00	5072 4024
Wednesday	21.00	4644
Thursday	04.00	5821
Thursday	20.00	4024
Friday	04.00	5027
Friday	21.00	4644

We are still looking for the early Monday transmission.

COUNTING STATION

Still very active although the reception of some transmissions seems rather poor at present.

All English unless stated.

Mon	18.00	8143//6970	Sat	04.00	6840//???? Sp
Mon	20.00	9219//6782 G	Sat	12.00	11470//16198
Mon	21.00	5716//6797	Sat	13.00	10526//7547
Tue	17.00	8085//6780	Sun	12.00	16086//????
Tue	23.00	9120//????	Sun	12.00	10529//7547
Wed	17.00	8085//6780	Sun	14.00	10723//????
Wed	17.00	6970//8743	Sun	14.00	12221//????
Wed	18.00	10375//???	Sun	18.00	9070//7907
Wed	18.00	8143//6970	Sun	18.00	6970//10374
Wed	20.00	5153//????	Sun	20.00	5153//7907
Wed	21.00	6970//????	Sun	23.00	11450//????
Thu	18.00	7908//6970			
Thu	20.00	5153//7907			
Thu	21.00	5716//6797			
Fri	03.00	7695//???? G			
Fri	18.00	8312//????			
Fri	18.00	18726//???			
Fri	21.00	6970//????			

All reported in October November & December.

COUNTING STATION CONTROL TRANSMISSIONS All start at h+30

English - Daily

00.30	5205	7540	11441
01.30	9918	7763	
06.30	5205	9224	
07.30	13581	16451	
11.30	10940	?????	
13.30	13423	16434	
13.30	8559	11441	Not Same
17.30*	5205	8559	12285

* We have noted 5205 only in recent weeks

Spanish - Daily

00.30	5264	6792
02.30	6840	9958
10.30	7225	10324
18.30	11491	16310

We would appreciate confirmation that the above are all operating, as some changes seem to be taking place with the frequencies used for control transmissions.

GERMAN LANGUAGE STATIONS

GERMAN TWO-LETTER STATIONS

Since we last took a detailed look at these, much has changed and we hope this update will be of interest. Many of the old short range transmissions such as Echo Lima and Echo Golf seem to have ended but new call-signs have come along to replace them. Further ENGLISH language call signs have also appeared - MD BN DA VI are all active and CN is now using WL's old Id's.

The station uses a set list of frequencies but you need to tune through them to find the broadcast, the time and day of transmission is regular but the frequency use is variable.

TIME	MON	TUE	WED	THU	FRI	SAT	SUN
00.00			CD	CD	CD		
01.30		GK/KW		GK		GK	
02.00			CN				
02.30	CN						
03.00							SB/CD
03.30							CN
04.00							WL
05.00	KW	KW	KW	KW	KW	KW	KW
05.30							BN
07.00						OA	
09.00	KW	KW	KW	KW	KW	KW/MD	KW/WL
09.30		DA		DA/KW			
10.00			DA				
11.00		DA					
13.00	VI						
13.30		MD	VI			VI	
14.00	KW	KW	KW	KW	KW	KW/AU	KW
15.00	OA						
15.30				VI			
16.00	OA/H	OA/HK			HK		HK
17.30		OA					
18.00			RD		RD		
19.00	GK	WL/RD		OA/WL	GK/RD		VO
19.30	RD	VO					
20.00	RD	RD		RD/VO	GK	VO/RD	GK
20.30		GK					
21.00		GK/VO		GK/VO		VO/GK	
		JW		JW/RD			
22.00		RD/SB	GK/VO		OA/GK		RD/GK
22.30				GK			
23.30		HK/SB		HK/SB	HK/SB		HK

all
the

Frequencies : 2707 3228 3262 4543 4594 4821 4888 5015 5182 5284 5732 5770 6765 6853 7404 7532 7740 7752 7855 8063 8173 9040 9325 9450 10460 10500 10740 10177 11108 11545 11617 12092 12210 12314 13572 13775 13890 14622 14945 15610 16055 16220 16414 17430 18575 19295 19755 20240 20350 20675 22885

3 NOTE ODDITY

Continues to change frequency each month, the station seems to keep Central European Time since it moves to +1 hour for 2 to 3 weeks between September & October. Transmissions at 04.05 Friday and 19.40 Sunday seem to have ended. Saturday morning 04.10 has not been heard recently, but is probably still active.

	SUN 05.10	SUN 13.10	SUN 20.10	SUN 22.10	SAT 21.10	FRI 17.00	FRI 20.40
August				5617	6642		5178
September	4063			5487	5817		4410
October			3471	4827	5329		
November		8853	3352	4139			
December			3268	3815	3940	5575	
January			3241	4126			

Sunday 22.10 transmission - we predict ! February 4357, March 4562, April 4751, May 5637 & June 6547.

SWEDISH RHAPSODY

For the first time a third scheduled count variant type has appeared, sending a different message (single) to that of the D & M messages. This can be heard on the first Tuesday of the month at 21.00 on 5340 in LSB, not the usual d.s.b.

The following is a list of schedule changes ONLY and by no means a complete schedule. For remainder see ENIGMA 6.

DAY	TIME	FREQUENCY	1	2	3	4	5
TUE	20.00	4195 MCW		#			
TUE	21.00	5340	#				
TUE	21.00	3825 MCW	#				
TUE	21.00	5340 MCW		#			
SAT	22.00/30	3825				#	
SAT	23.00	5340		#			
SUN	01.00	5748		#			
SUN	11.00	8188				#	
SUN	22.00	5340			#		

Message groupings D, C, H, I, G, M, N, L, Q, R (?), P still continue, but all the above transmissions may refer to new message groupings not yet confirmed.

GERMAN LADY '00000' ENDING

Difficult to find, does seem to have regular time slots, but uses random frequencies. Groups are paired ends '00000'.

Try Monday at 20.00, Tuesday at 21.00, Saturday 21.30. Recent Id's include 122 and 319.

NUI NOICHEN

Messages are sent in single groups, often uses a 4F decode key. Repeats all messages on three frequencies.

Tuesday 06.30 7379 8178 9280 calling 278
Thursday 06.30 7379 8178 9280 calling 278

The above weekly schedule ended on 30.11.94 and will most likely resume on 2.3.95 as it did in 1994, 278 appears to have 3 months off each year.

Thursday	21.30	8035 ?	6775	calling	?
Friday	05.00	5066		calling	704
Friday	19.15	10227 ?	?	calling	?
Saturday	09.00	12227 11127	9427	calling	214
Saturday	06.15	5.4 region	5066	calling	841
Saturday	21.30	5155 ?	?	calling	378

Repeat frequencies given only where known.

EAST EUROPEAN AND RUSSIAN STATIONS

'BULGARIAN BETTY'

We recently received some information concerning this station and believe it to be a Czech operation.

Daily Voice 'Control' Transmission 13.55-14.02 on 5027//4485
See our feature Simon Mason Writes.....

STATION YT YT YT

This station reappeared on Monday October 10th.

Mon 18.10 in MCW calling BTV, usually 2 messages	4424
Mon 19.00 in Voice, 3 or 4 messages	4424
Wed 18.10 in MCW calling BTV, usually 2 messages	4424
Wed 19.00 in Voice, 3 or 4 messages	4424

Possibly morning transmissions also

DRUMS & TRUMPETS

This station was last heard in September, was operating on 9th day of each month at 19.30 on 4740, please listen and report any logs of this station.

GRAVEL VOICE

This rough sounding Czech Male has not been heard recently but his very 'distinctive' use of random transmissions make finding him very hit or miss....please report if heard.

THE STRICH - Sends a 3F ID followed mainly by /00 is widespread in voice and morse.

The daily 553 transmission at 13.00 sent a 78 group message in early September and on the 28th of the month sent an 84 group message - longest ever recorded. A new ID, 121, appeared in late September running a very active schedule, appearing almost daily at 18.00, 19.30, 20.30. 121 was conspicuous for its lack of zero messages formats. Every single recorded transmission sent a message with group counts varying between 18 & 83. Operating 3 times per evening this cannot possibly have been intended for a single agent & was possibly divided into messages for 3 recipients at appropriate times. This broke a tradition for 'Strich' and ended around mid - October.

Voice transmissions still continue but nothing like as frequently as morse. German 496 & 697 are still with us, Slavic 'Chetta' (still 755) has returned - it may never have left and new English ID, 231, first heard on June 16th at 04.30 has been heard on December 16th at 20.30. Different day of the week but same day of the month. Perhaps she will oblige us on January 16th.

We will start with regular voice messages,

Mon	21.00	4465 3823	Chetta	755 (poss 1st mon month)
Tue	04.00	5050	German	697
Tue	21.00	3820	German	752
Wed	06.00	7580	German	496
Wed	23.00	3450	German	697
Thu	04.30	6905	English	231 } Weekly
Fri	20.30	3060	English	231 }

Not all above are weekly, check each week.

Regular morse transmissions

Daily	07.30	5150	552
	13.00	8100	553
	22.05	4465	287

Other morse

Mon	07.00	5550	017	Thu	06.30	5320	042
Mon	09.30	5610	011	Fri	18.00	5150	121
Tue	07.00	5860	552	Sat	23.00	5050	621
Wed	04.30	5150	214				
Wed	05.30	5150	284	New freqs.	3060, 5090		
Wed	12.00	9270	214				

This is just a sample-many more exist.

RUSSIAN WOMAN 'OOO' ENDING

Tue	17.45	5740	Calling 342
Thur	17.45	5740	Calling 342

Also heard irregularly

Mon	19.45	5292	
Thu	19.45	5292	Calling 491

This station also has the 'Counting' habit, we have noted it on several occasions around 20.20 on 4498 Counting 123456789-1 then off air with no message.

RUSSIAN COUNTING MEN

This brings us onto two variants of the Russian Counting Men

A) Is a loop tape - was 4562 last heard on 3878-long transmissions
B) Is a live announcer who counts and says phrase, he appears at random and was last noted on 4022 at 18.30, 2 minutes long transmissions.

RUSSIAN MEN in RUSSIAN & ENGLISH

Transmissions continue on a wide spread of frequencies and activity levels are still very high, following our major feature on these stations new information arrived.

One reader wrote...." I read a translation of the German BFV annual report and it said that KGB/GRU communications originated from Zossen near Berlin. I think that the report was dated 1993, as Zossen was Russian Army HQ for the GDR; transmissions may well now originate from elsewhere".

In the next issue we will look at who the Russian Man transmissions are aimed at !

Due to the random nature of these stations we have not included logs, but we would appreciate a note of any transmissions, - particularly the 3F agent call, we are collating a list of these. Please note if English, Russian, German or morse which ever format was used (see issue 6 for details).

OLX OLX OLX
No sooner did we print a schedule in issue 6 than it changed ! Daily 23 Hours per day, to the following. Note 9321 & 5775 are new and not listed on QSL card, 3 frequencies have been dropped.

00.00 -	05.00	3280//5301//8142	All now in SSB
06.00 -	09.00	4601//5775//9320	
10.00 -	17.00	5301//8142//11002	
18.00 -	22.00	3280/ 5301//8142	

Transmissions are 50/50 : Voice/CW, All Id's remain the same at the same times.

SPANISH LANGUAGE STATIONS

Most heard in the early hours...the' final final' station (daily).

Mon	07.00	5417	Thu	06.00	4028
Tue	05.00	4028	Fri	04.00	4479
Wed	04.00	7681	Fri	08.00	7887
			Sat	07.00	7887
			Sun	07.00	5417
			Sun	10.00	9157 (weak)

Without wishing to confuse the issue too much the Russian Man set-up also operates a Spanish Lady and Spanish Man, these are very strong in Europe. The station seems to have a regular time slot on a Friday evening at either 22.00 or 23.00 UTC. Agents used are either 195 or 579 and the pronunciation is slow and deliberate, just like the English/Russian Man but uses standard Spanish Numbers:

Uno, Dos, Tri, Quatro, Cinco, Sies, Siete, Ocho, Neuve, Cero.

FAR EAST

We have had several reports of Far East Number Station activity,

New Star Radio, Taiwan is the most popular and can be heard in Europe with a fair signal. Try at various times....reported at 08.15, 15.30, 16.00, and 22.00 on 8300 kHz in Europe. The station sends a musical interlude between messages.

A second station as also been noted on 5738//6278 sending Numbers in a Far East language at 20.00.

We are very keen to have reports on more 'Far East' numbers activity.

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LATE NEWS.......

RUSSIAN MAN 'CONTROL TRANSMISSION' -A second one of these has recently been heard. It follows on immediatley after the 14890 transmission daily. It uses an identical format in which the two 5F groups are related, both to each other and also to the 08.00 transmission. Daily 08.00 14890 & 08.20 11270.

UNIDENTIFIED STATIONS - 'TRC' heard 26.12.94 at 20.55 on 4650 sent in CW 'VVV 709 de TRC' followed by 5F groups in English read by a YL in USB ...no further details.

- 'UKV' heard 25.12.94 at 13.30 until 14.06 on 8178 Male with German accent reading English numbers. Strong signal ID 296 for 5 minutes followed by 160 pairs of 5F groups. Corresponds exactly to Russian Man format which ends in 5 Zeroes. BUT after this was sent in morse : UKV(10 times) then K.
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STATION NAMING

We realised some time ago that there is a need for some form of consistency in reporting Nos. stations. Until now we have used either names we have made up ourselves or names inherited from previous publications. Although the system is satisfactory for 'obvious' stations it breaks down when precise naming is required. For example, there are various German-speaking females, and logs reporting 'German YL 5F' are often impossible to identify as these could well apply to any of several stations.'Bulgarian Betty' is actually Czech, 'Russian Men' proliferate and who is the'German Russian Man' ?

We have already received a few complaints on these lines and feel they are fully justified, however, with only two people collating ENIGMA information the task involves an enormous amount of sifting through logs received. (Offers of help always welcome !).

The reporting of Morse Stations can be even more ambiguous, and ultimately, the accuracy of information given in ENIGMA depends largely on that of the information we receive.

First of all, we must be sure of what we are listening to, and be able to positively identify it by comparing it to formats and schedules published in ENIGMA. If we are still unsure then we may have found a new station. If so, then as much information is required as possible, not only date, time and frequency but complete details of format, preferably from beginning to end. Even message content can be useful to determine repeats and nature of the code used.

In our next issue we hope to include an article on listening and reporting techniques and also a detailed format chart which will, we hope, enable an unknown station to be verified at a glance.

As far as naming is concerned, after much thought, we believe that the simplest method is to allocate each station its own consecutive number. To indicate between voice and morse stations a single letter prefix has been adopted :

M for Morse, G for German, E for English, S for all Slavic languages and V for all other languages e.g. French, Romanian, Spanish, Chinese etc & X for n ther morse or voice.

Occasional variant formats can be indicated by a suffix letter -A,B,C, etc. Using this system the following check-list of morse stations has been drawn up - covering not only typical numbers stations but also other suspect morse transmissions. It is already in use by certain of our contributors who find it preferable to the old system and quite easy to get used to.

No.	Description (brief)	Morse Supplement No.
M1	2 Tone/ends 3 short dashes (zeroes)	12
	A) end of month format	
	B) as A but with message	
	C) 00000 first group	
M2	$\overline{AR}$/Morse NNN	2
M3	Strich Equivalents	8
	A) 111/333 variants	
M4	LO LO,Ends AR SK/Swedish Rhapsody	1
M5	6 Figure/2 Day Wonder	-
M6*	OLX	3
	A) original format no longer used	
M7	Rapid Dashes - tone sequences	9
M8	(reallocated) Abbreviated CW 5F	--
M9	Wideband F.M. (abbreviated)	-
M10	Rapid Dashes-Bulgarian Bette	10
M11	3 Short Dashes (zeroes)	5
M12	3 + 3 Short Dashes (zeroes)	6
M13	3 Long Dashes (all slow)	4
	A) 3F 000 is not a null message	
M14	5 Dashes (fast)	7
M15*	DEA47	16
M16*	8BY	17
M17	Ready Ready equivalent/ends VA or $\overline{SK}$	15
M18	4625 kHz Pseudo Time Signal	24
M19*	MPL	18
M20	'V'Station	14
M21	Pseudo Time Signal ???????	25
	A) with interspersed groups	
M22*	4XZ	19
M23	Odd/Even station	11
M24	Slow Dashes	13
M25*	KKN/KRH/KWS Series	22
M26	'98' Station	26
M27*	BTV (YT Morse Version)	27
	A) with YT's	
M28*	HEP	21
M29*	VDE	23
M30*	MG	..
M31*	FDC	20
M32	14403 kHz - Numerous Callsigns	--
M33*	P8K	-
M34	Counting Morse/11 12345	-
MX	SLHFB's In cluster bands	
MXV	Irregular 'V' Beacons (never in cluster bands)	
MXC	Pseudo-commercial Beacons	
MXS	SLHFB's out of cluster bands (solitaries)	
MXF	SLHFB's FSK (none operating at present)	

* All these use call-signs, so are unambiguous, but have been included to complete the list.
The order given is arbitrary, updates will be issued.

Morse Numbers Station News

As there is such a vast range of stations and so little space, we will only include significant changes rather than full information-which can be repetitive. Most of these stations deserve features of their own and these will appear as space permits. From now on we will be using the ENIGMA reference nos. as given on our checklist in this issue. We will continue to name stations by their callsigns, where applicable.

M1 In addition to the Thur/Tues 18.00 and 20.00 regulars, a further regular has existed for some years at 07.00 on Sun, at present these use 6280//5465 - all using same ID, at present 197. No irregulars have been heard over past months. The regular schedule between 3 never changing ID's : 025 - May to August, 463 - Sept to Oct, 197 - Nov to Feb & 463 (again) - March to April. Maybe this coincides with agent tours of duty. This is not an agent number and messages are intended for several recipients per week. Each ID and time slot uses different frequency pairs, (Tue & Thur being shared) making 18 in all.

Perhaps, more than any other 'typical' nos. station this one exhibits the most interesting features, including a unique and complex end of month format which provides us with much speculative information. A feature on this fascinating station is being prepared for ENIGMA 8.

M2 No deviations from its regular schedule. No irregulars heard in recent months. We have heard that this station, and its voice counter-part N N N may be located in France. Any comments ?

Winter Schedule :

DAY	TIME	FREQUENCY	IDENTIFICATION
Mon	05.00	6995	712
Mon	18.00	4642	726
Mon	20.00	4642	712
Mon	21.00	4573	181
Mon	22.00	4054	181
Tue	04.00	4024	945
Tue	05.00	4925	401
Tue	06.00	4024	237
Tue	18.00	6850	237
Tue	19.00	4024 & 4642	401 & 237
Tue	20.00	4024	945
Tue	21.00	4024	621
Tue	22.00	4054	621
Wed	04.00	4035	735
Wed	05.00	4054 & 6850	735 & 849
Wed	17.00	4642	726
Wed	18.00	6770	849
Wed	20.00	5738	815
Wed	21.00	5315	815

Thur	05.00	4054	723
Thur	20.00	5770 & 4642	827 & 815
Thur	21.00	4573 & 4054	827 & 723
Fri	Nil		
Sat	05.00	6850	849
Sat	12.00	5738	181
Sat	18.00	9120	849

M3 See voice version under 'Strich', very active.

M4 See voice version under Swedish Rhapsody. A new entry is Tuesday, 1st Week : 3825 at 21.00. Repeats not yet known.

OLX Still running 23 hours daily. 50/50 Morse / Voice. Same id's appear at same times. For frequency changes see voice section.

M11 Very similar to M1 - the only difference being speed and quality of sending. This one is faster and more professional and is not hand keyed. Occasionally one M1 channel will use CW and the other MCW. This too seems to use both although modulation is purer, having a single tone sound. Early logs were confused with M10. All have similar endings. Unfortunately, the M11 (3 short dashes) section in the first morse supplement is inaccurate and should be deleted.
M1 and M11 always use 3F 'decode keys'. M10 & M7 always use 2F. This difference is crucial in identification if only the ending of an M10/M11 transmission is heard. M11's may merely be variants of M1 'irregulars'. Given time we are sure to get to the bottom of this ! Thankfully M11 is not as frequent as previously thought and I have only logged four positive M11's in the past 3 months.

Wed 26th Oct 16.00 5456 '942-243-30'
Sun 26th Nov 08.00 5456 '287-931-23' All CW.
Sun 25th Dec 06.00 5.05 appr '???-372-34'
Sun 25th Dec 08.00 5456 '???-382-24' 1st group 22222 !

M12 As usual extremely active, using numerous random frequencies and Id's. It would serve little purpose to list them all here as they need to be viewed in a fuller context along with its voice counter-parts. Signal strength and general quality are uniformly good, mistakes non-existent. Schedules come and go.

M14 & M24 The same applies to these, also presumably Russian operations. Although we treat these separately they may be the same outfit. M14's incredibly fast keying warrants separate treatment. Both very active, but not as active as M12.

M13 Again, professional, powerful signal and numerous frequencies, yet not quite as randomly selected. Active daily. Repeats often occur following day on same frequency and at same time. Alternatively, one hour later on same day.

Its M13A format where the call is a slow 3F(x3) 000 sounds identical to a slow M12 zero message format. However, M13 never sends zero message indicators, but continues (after calling for 5 minutes) with a message as usual. The zeros could possibly inform the recipient that his/her previous message has not been received as monitored by the following logs.

Mon	10th Oct 21.00	6884	'387-000/125 25'
Tue	11th Oct 21.00	6884	'387-000/125 25' repeat
Mon	24th Oct 21.00	6884	'387-000/126 25' new msg
Tue	25th Oct 21.00	6884	'387-000/126 25' repeat

The 3 figure 'message indicator' is a consecutive no. allocated to each agent who would have a first message starting 101, second message 102 etc. This probably also is associated with a similarly numbered 'decode key' or page in a one time pad. i.e. on 24th Oct was sent 387's , 26th message.
The 000 format is rare.
New id's include : 125 261 245 353 415 417 427 517 629 757.
New frequencies include : 5245 6573 6722 8132 8162 9010 9983 11216 12155 (the last two are relatively high for this station).

DEA47 Became erratic and now seems to have disappeared. We would be interested to know the date of the last transmission.

8BY This is far from dead ! but does seem have become more erratic. A new active frequency is 7668.

M17 Operates a rigid but very complex schedule along with its voice counter-part "Ready Ready". Its most recently discovered 'slot' being on 3rd Thursday of month at 15.00 on 7425, this repeats at 15.20 on 6930 and at 15.40 on 6675. 5F Id begins 06...
Other morse prefixes are : 50 53 56 57 58 60 68 71.
An article on this group of stations is long overdue, and we are preparing one for ENIGMA 8 or 9.

M18 The 'time signal' on 4625 is back with us - it was not greatly missed !

MPL No change. Daily on 10180 at 13.20.

M20 Not heard at all over the past 3 months. (Not unusual, It comes and goes in a similar way to certain 'Strich' id's).

M21 Still very much around. Often on 2 frequencies simultaneously but not in parallel. Newest frequencies : 3653.5, 2316, 3247, 5206.5, 4042, 8084. True messages of 14F groups are not infrequent.

4XZ Very active on many frequencies and messages are frequent.

M23 Has an annoying habit of re-scheduling to wildly different times and frequencies. As a result once we find a regular slot it disappears for a while until found again.

At present can be found daily on 9285 at 16.30. Not only is the 1/2 hour slot a departure from the usual but now the lengthy call has been cut down to 5 minutes, and keying is automatic. 197 has been replaced by 951 as a popular null indicator (odd number). About 10% of transmissions contain messages. Another time slot in the day is likely but has not been found. At least it is unadventurous frequency wise and tends to return to its old haunts.

KWS78 & KRH50 Both continuously active in Europe. Messages infrequent.

M26 The '98' station is no longer with us. Any reports would be most welcome - if you hear this station we would appreciate detailed intercepts.

M27 This station has recently scrapped its YT call preceding the BTV call. Otherwise it continues to send 2 or more messages every Mon & Wed at 18.10 on 4424, morning transmissions are likely but not yet found.

M28 'VVV de HEP' has recently been heard on 2 frequencies in parallel - 3310/7825, over many years it has never been heard to send anything more interesting.

VDE Tuesdays 6451 at 09.05. Each week sends the same message commencing at 09.10 with '45 30 1 1005' and into 30 5F groups, certainly not broadcast from Canada !

M32 A dedicated ENIGMA reader told us about this station which operates on 14403 usually in the mornings. The station uses a bewildering number of almost random 4 character call-signs sending long 5 letter messages of 'nightmarish' complexity.

Our grateful thanks go to Walt in Hull for his monumental contribution which we are still analyzing and will cover in greater detail in the next issue. Please have a listen out for this station and let us have your opinions.

Our Morse station section is continuing to grow and we would appreciate any information, logs and comments about any of the stations detailed.

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LATE NEWS....

M27 & YT - no transmision on Monday January 2nd 1995 (on holiday '!) returned as usual on Wednesday.

M1 No distinctive 'end of month' transmission at either 18.00 or 20.00 on last Thurday in December (first time this has been noted). Merely 2 standard 40 group messages. Also on Thursday 5th January - no 18.00 transmission, but 42 group message was sent at 20.00.

M7 (Accidentally left out of above logs!) Activity remains at same level - more information in ENIGMA 8.
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Things That Go Buzz In The Night

Welcome along to another BUZZ Page, most of our unsolved old favourites are still buzzing, piping and crackling along.....information on any of them is always very keenly received. We are going to give over most of the page to a mystery which most reader will have heard but perhaps ignored ! 'FADERS' have been around years but what are they ?.....

Regulars first....
THE BUZZER still very active 4625, made a brief appearance // on 5211 kHz between 12.00 & 18.00 on Sunday 18th September.

THE PIP can be heard regularly evening and late 3757-variable to 3752, also occasionally very strong // 5450.

THE ECHO seems to move between 3 frequencies, 4080 4119 & 4382.

THE CRACKLE 5494 & 5505, very active. Still around elsewhere also.

THE BACKWARD MUSIC STATION still around, last heard on 5685 kHz on December 15th - goes on for hours with totally un-intelligible sounds....described recently in the US 'Monitoring Times' as sounds resembling 'moaning whales', they are reported to emanate from US Naval Installations at Jacksonville, Florida and Virginia Beach, Virginia although this is not likley, considering signal strength in Europe.

FADERS....so called because when you tune to them they appear to Fade...away, then come back strong again, they are on wide range of frequencies, the signal (N.B.F.M.) consists of a rough groan of constant pitch, like a motorbike engine ! The reason that they fade is due to the one minute cycle they use, each burst is 7.5 second in length, whether a fade takes place or not then the sound breaks every 7.5 seconds - at this point the signal does one of three things....

a) Carries on at full power
b) Fades to a lower power
c) Stops completely

The cycle of one minute seems to follow a pattern but can also be random in nature, for example.

7.5	15	22.5	30	37.5	45	52.5	00	Seconds
LOW	LOW	HIGH	HIGH	LOW	LOW	HIGH	HIGH	
LOW	OFF	HIGH	HIGH	OFF	LOW	HIGH	HIGH	

Faders operate on a wide spread of frequencies, many in use over any short period. Try these popular frequencies.
3820 4048 4475 4480 4495 4563 4845 4985 5105 5315 5785 5790 5847 6797 6825 6940 6990 8055 9245 10480 11100 to name just some of the most popular ! Heard day and night and very active. Give them a try, you will soon be hooked....comments always welcome....faders do operate on a large number of random frequencies also. Logs show 4 in 3 mHz, 15 in 4 mHz 15 in 5 mHz 8 in 6 mHz.....

Letters to E.N.I.G.M.A.

First off - Happy New Year - to all our reader's World-Wide and sincere thanks to everyone who as taken time to write in. Again we regret that we are not able to answer all your letters personally, but please keep writing. We read and collate everything we receive.

Just to start off with a few 'thank-you' notes to Tom in Chelmsford, Ian in Perthshire and many other readers who commented on issue 6. Also thanks to Ray in Nottingham and Leo in Sunderland for all the information we received about 'direction finding'.

Our first letter comes from Ahola in Espoo, Finland and he asks several questions including...do Number Stations exist on LW, MW and VHF ? Well, we have had some reports of a Numbers Station which could be heard operating on the FM broadcast band which was monitored in Dhahran, Saudi Arabia. The transmission was jammed at the time, FM signals do travel quite a distance but are really only of use for broadcasting into a local area, perhaps across the border into another country. We have never heard of any LW transmissions but a regular contributor to ENIGMA did tell us " ....that transmissions sent from Magdeburg in the former East Germany for soldiers also carried messages for non-existent people in West Germany. CW messages were also broadcast on MW and the DDR often used MW for spy communications".

Ahola also asks "have you ever de-coded any of the messages"? Well, the answer to this is a simple NO - and I guess it is also not a good idea to try. Simply, the messages are so secure you could spend almost forever trying ! This is not to say that the professionals are not trying, but even with the most powerful computers it is an enormous task. In the book "Spycatcher", Peter Wright explains in detail how Number Station codes work, he writes...."For years both GCHQ and NSA and MI5 employed teams of researchers scouring the world searching for 'collateral' ; but despite the effort less than 1 percent of the 200,000 messages we held were ever broken into, and many of those were broken only to the extent of a few words".

Now a letter from our good friend Ary in the appropriately called Spykenisse, The Netherlands. Ary sent us some information about three rather odd stations...he says in 1984 there were 3 stations using callsigns DFD25, DFD78 and DFD89 who identified themselves as 'Deutsche Sportverlag mit Sportnachrichten". The stations operated in the 4 mHz area and broadcast horse racing results ! Can any ENIGMA reader confirm anything about these call signs ? Ary, and also Brian in Crawley, West Sussex have asked for an update about Radio Ram Chetirye.

Ivan in Pskov, Russia tells ENIGMA that the station we called Radio Ram Chetirye is Radio REM-4 which belongs to the Moscow Meterological Institute in Russia. The station sends special aviation weather information and details on atmospheric fronts and storm warnings. We are still suspicious !
Ivan also says that the station transmits each day, in winter at 04.30 10.30 12.50 and 22.30 UTC. We would be interested to know if anyone could perhaps QSL this station or can provide further information.

Now a request for help from a reader in Greece who would like to correspond with other listeners; he writes that the subject is so vast "I don't know how to start" - if you would like to help please write to :
KROMMIDAKIS MICHEL, Skines Kydonias, Xania Kriti, Greece.

Andreas in Landsberg, Germany sends us another letter packed with information...." In spring this year I read a detective story by the Bulgarian writer Mikhael Bulgakov about a Bulgarian agent in Denmark". In the book Andreas tells us that the agent communicated with HQ via a Numbers Station - .....On a very similar subject Mike in Kent wrote to us about OLX...he tells us that while watching a television programme via satellite (the film was German) the hero of this 'spy thriller' was tuning his Grundig 'Yacht Boy' to the familiar VVV de OLX call-sign. He then copied down a 25 group message onto his one-time pad....
A case of fact meets fiction or is it the other way around ?

ACHTUNG ACHTUNG! On May 3, a giant satellite was launched with little press coverage from Cape Canaveral. The $1.5 billion satellite is a joint project between NSA and the National Reconnaissance Office. The unit known as 'Mentor' has an antenna larger than a football field to carry out "hyper-spectral analysis", or in simple terms - a wide swathe of the electro-magnetic spectrum.

'Clipper' &'Digital Signature*' opponents may be interested in this information. Mentor surprised space analysts by moving into a geo-stationary orbit (this allows Mentor to sit above its target). Additional launches are planned for late 1994, Mentor is reported to be over the Ural Mountains in Russia, while the second unit will sit over Western Europe.

ENIGMA readers may be interested in the planned receiving sites for these units, the main one is likely to be Buckley Field, Aurora Colorado, an NSA/Reconnaissance down link, but in Britain the NSA station at Menwith Hill, North Yorkshire continues to grow with 3 more radomes under commission. The NRO operate a new receiving site at Molesworth, Nr. Huntingdon. (The ex-Cruise missile site).

'*Clipper' is the name of the chip US Government intend to install as the standard encryption system for commercial and private (mobile phones). The odd thing is that they have the ability to decrypt the information !

ENDE ENDE!(Marcel France via Loring Wirbel).

Marcel writing from France sent us a clipping from the magazine "L'Evenement Du Jeudi" dated January 6th 1994, the story concerns a group of spies recruited in Cuba by the CIA who were at the same time working for the Cuban Secret Service.
The feature covered the Mario Casagrandi case (see ENIGMA 4) and explains - "Every week, he received secret messages from the CIA (the voice of Cynthia transmitting groups of 4 numbers) on a normal commercial Sony shortwave receiver. The agent also received from the CIA a transmitter (RS804) designed into a chess game, this allowed him to transmit encoded messages via satellite to the Fleet Satcom Station. The transmission speed was around 20 second for 1800 characters, he could transmit from home or out-doors and the transmitter could be hidden in a sports bag".

Several readers have asked about "Tone Stations" or poly-tone transmissions. These are powerful AM signals sending a changing series of notes, each tone corresponding to a figure. We would be interested in receiving any reports or further information on this subject.

Hans in Trier, Germany wrote about the mixing of two signals from the same transmitter site and mentioned hearing the phonetic stations YHF and VLB2 mixed together on 5820 kHz. This is caused when two powerful transmitters are operated from the same location and are not correctly shielded. We noticed this recently with a "Strich" transmission when the German language call "752/00" was sent in voice on 5052 kHz the CW transmission from 4465 kHz sending 287/00 could be heard bleeding through.

Now onto a few quick questions and answers....first a reader asks about our mention of "Creslow" and where is it located.. the site is not on most maps and is situated off the A413 near the village of Whitchurch in Buckinghamshire.

ENIGMA is also interested in the site known as RAF Ash, this is situated off the A257 between Canterbury and Sandwich in Kent, The site used to be a radar station but now seems to be equipped with a wide variety of equipment....more on this in our next issue.

ACHTUNG ACHTUNG! " I read recently that Erwin van Haarlem has been sent home to Czechoslovakia due to the good relations now existing between the two countries" ENDE ENDE. Thanks 'D'.

Thanks again for all your letters - please keep that information coming in. Thank you also to those readers who send us anonymous information, which is most appreciated.

THE NEXT ISSUE OF ENIGMA NEWSLETTER WILL BE PUBLISHED LATE MAY 1995. PLEASE SEND IN ALL CONTRIBUTIONS BY APRIL 2nd 1995.

THANKS AND PLEASE KEEP IN TOUCH !!!

Simon Mason Writes .....

This piece was going to be called 'A Week with DEA47' in which I had intended to monitor the morse station DEA47 for a full week. However, things didn't quite go as planned since the station no longer seems to be keeping to its 'office hours', as I prepared the daunting task of listening to it for seven days !.

The majority of the time, the station just repeats its marker of VVV de DEA47, but now and again short messages of the type 653T 9995 653T 9995 CB CB CB NW 6982 II 6982 AR DEA47 are sent. There was insufficient monitoring done to establish any pattern if any existed. Another station 8BY (see morse insert with this issue) is much more active, but for this issue I decided to take a look at the so called "Bulgarian Betty" voice control transmission which appears each day.

The same voice was active throughout the 1980's on a busy hourly and half-hourly schedule which ended roughly around 1990. Its morse counterpart is M10, which uses a simpler 3F ID notation, but M1, M11 and M7 all have certain elements in common. It has another direct voice counterpart - a variant of 'Gravel Voice'. A further 'Gravel Voice' variant - the 'Czech Man Control' operates an identical format to the present 'Bulgarian Betty Control' but only on rare occasions - probably monthly.

The transmission appears each day at 13.55 to 14.02 UTC on the frequencies of 4485 and 5027 kHz. The five minute preamble at present is 555 555 555 313 313 313 05 which is repeated until 14.00 UCT, then 42 42 05 05 is sent followed by 'Pozor! Pozor!' and then the message itself - which is the only part that changes. The message ends "Pozor! Pozor! 42 42 05 05 Konec! Konec!" The word 'pozor' is Czech for 'attention'; it is not 'hothor' or 'over' - these words don't exist in Czech. Nor is the language Polish, as has been reported! 'Konec' (pron. Konets) is Czech for 'end'. The message itself consists of a 5F group repeated ten times. It nearly always has a central zero group, and the first figure is usually a 5,6 or 7 or 8 and the fourth figure usually a 2 or 3. There have been some exceptions to this as we will see in the list that follows. Back in July 1993 when the station was first noted in this format, it used 5311 kHz at 14.00 UTC and its call up was 555 555 555 998 998 998 02 , but around August 1993 it changed to its present 313 call up.

By October 5th 1993 it was using 7882 with its present 555 313 05/42 05 sequence. On November 1st 1993 it moved to 6974 and on January 1st 1994 to 4485. In July it moved again to 5027 and shortly after 4485 reappeared in //.

(In the light of further information on 'Bulgarian Betty' this feature has had to be considerably rewritten — M.G.)

	DATE	GROUP	DATE	GROUP	DATE	GROUP
93,	14.7	60079	7.9	65034	13.10	66025
	12.8	58066	12.9	64029	14.10	65034
	13.8	69042	13.9	59026	15.10	64034
	14.8	67029	15.9	65031	17.10	69028
94,	9.2	75024	16.9	65031	20.10	65034
	10.2	80418 !	17.9	64031	25.10	63034
	4.3	82024	18.9	65034	26.10	68024
	17.3	82027	21.9	63031	31.10	78036
	22.4	58051	22.9	63000	2.11	76030
	28.4	71029	25.9	63031	4.11	78041
	6.6	00061	26.9	55028	7.11	62028
	29.6	68028	28.9	65031	9.11	70025
	6.7	66031	30.9	61027	11.11	56027
	12.7	53032	2.10	64031	15.11	61028
	13.7	68066	8.10	64028	17.11	71024
	20.8	50041	11.10	62301 !	19.11	61029
	6.9	68031	12.10	53037	20.11	74029

We are planning a detailed feature on this complex group of stations, for a future issue.

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THE SIX TONES STATION (X1)

A further, almost certainly espionage-related station, which for some unaccountable reason, we have overlooked in these pages until now, is the myster- "six tone station". Surprisingly we receive very few reports of it, yet it is to be found quite often, particularly on the higher frequencies. Transmissions consist of a series of six tones sent over about 3 seconds, and repeated continuously for 5-15 minutes. So far we have logged 8 different sequences , one being more favoured than the others. The signal is always strong and uses A.M. These factors , along with their habit of using frequencies and times at random - appearing at 5 min intervals within the hour - are shared in common with numbers transmissions believed to be KGB/GRU controlled. Recently, this station has been very active, sometimes several times daily, on frequencies as low as ≈630kHz. Bursts of data have been reported after the end of the 'melody' period, but these may be unconnected. The presence or absence of a particular melody may in itself indicate to the recipient a particular status or message. Alternatively, the individualnotes may each represent numbers - as with polytone. i.e. a repeated 6 figure number. No regular schedules have been found,nor have any favoured frequencies, however, there is evidence of repeats being sent on different frequencies within the hour.
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The BND and Electronic Surveillance

Mike, Bath, UK

ABSTRACT

The text of this article has been translated from a recently published German book provided by an anonymous ENIGMA source. Unfortunately, we have no information concerning the book's title, author or publisher and are therefore unable to provide the due acknowledgement. Locations of sites can be found at the end of the article.

1. The Development of the BND

The German Intelligence Service, (Bundes Nachrichtendienst) or BND was formerly run as a unit of the regular German Army. However, it soon became clear that this organisation was hindering the efficient collection and dissemination of high-quality intelligence information, especially where sources were electronic in origin. The main sections of the BND responsible for electronic surveillance work were Sections 2 and 14. These sections dealt mainly with telephone interception and had well over 2,000 operatives. In any case, by 1984 a decision was made to find a better home for all of its operations, especially those devoted to eavesdropping on radio traffic.

2. Moving On

The lack of any local buildings that were large enough to accommodate its staff and the massive antenna systems required, forced the BND to look for a new site around the Bavarian town of Pullach. The group formed to operate this new radio surveillance service was christened the BfF, Bundesstelle fuer Fernmeldestatistik (Government Agency for radio communications statistics), using over 400 operatives from the BND. The brief of the new section was to:

— collect and disseminate communications statistics
— perform field-strength measurement of transmissions
— provide for surveillance of all forms of long-distance communications
— locate and identify sources of interference to radio services

Its main facilities are located at its "Measurement Site No. 3" in the town of Stockdorf. This site also houses the Institute for Communications Technology. This site gave rise to some novel interception and communications systems, for example those code-named "Harpune" (Harpoon) and "Schnellbahn" (Fastpath). These systems were co-developed with Rohde & Schwartz, Siemens AG and AEG Telefunken with the computer hardware provided by Hewlett Packard. However, the BND relied strictly upon in-house developed software for its computer systems.

The antenna systems located in Stockdorf are purely for receiving signals, outgoing traffic to agents near and far being transmitted from the antennas at the Kreuzholzhausen site. For this service, the BND used its sister-organisation, the Rundspruchdienst (RSD, or Broadcasting Service), which would transmit coded messages in voice at designated times on predetermined frequencies to BND agents operating in Europe. Another sister organisation, the Schnellinformationsdienst (rapid information service) was used to send messages usually using Morse telegraphy, to BND agents both inside and outside Europe. With over 70 operators, this section (24G), was by far the largest of the BND sections. It concentrated mainly on providing BND agents with information

concerning East German MfS agents, their movements and orders.

In order to prevent agents in the field from missing their transmissions at the predetermined times, the technicians at Stockdorf invented the Harpune system. Small modifications were made to ordinary radios of East European manufacture. The transmitters operated by Stockdorf would then send short data messages which were intercepted by the modified agent's radio which would automatically designate the new time and frequency of the agent's next message. This systems was used by the BND's East European agents and those stationed in the Near and Middle East. Harpune is supposed to have raised over 20Million DM for the BND, having been sold to its NATO partners. It is interesting to note that the British agents involved in the Polish upheavals in 1986 and 1987 were found to have been using Harpune equipped radios.

The Schnellbahn system was developed to provide agents without access to radio receivers, with a means for secure message transfer. The system was connected to ordinary telephone lines and would send fast, encrypted messages to the agent. Security was essential as the Stasi would almost certainly be tapping the agent's telephone lines. Schnellbahn met this need and also made it very difficult for an eavesdropper to even detect that fact that a high-speed message has been sent on the line.

3. The History of the BfF

Although Stockdorf was the main centre of BfF operations, a large antenna complex was also constructed at Maising, and at its test and proving site in Tuetzing. From its facilities in central Munich, the BfF undertook most of its East German telephone interception work. It is also likely that this work carried on for some considerable time following the Re-unification of East and West Germany.

The BfF operated as a fledgling organisation in 1979 from a German Army site in Braunschweig, when the main receiving systems were the US AN/QRC-259 type. Sister stations operated from a barracks in Kassel and the Lower Saxony town of Woltersdorf — this part of the operation generally being acknowledged to be engaged in East German border surveillance. Other BND eavesdropping and surveillance sites were located in Bad Muenstereifel, Achern and the Krailling sites (codenamed Dacapo and Forsthaus). A telephone interception site was also located not far from Frankfurt's main railway station.

The mid-1980's saw a considerable period of new investment in the BND and the BfF. The Franco-German listening tower at Berlin's Tegel airport, operated by the "Working Group for Equality Research" and the eavesdropping site in the Spandau part of Berlin were considerably modernised and improved.

From its site close to the town of Monschau in the Eifel and also at Mainz Strasse in Bonn, the BfF conducted eavesdropping on the many embassies located in and around the city of Bonn. About 90 staff were employed at the Monschau-Hoefen site in monitoring this diplomatic communications traffic both by day and by night. The BND was engaged mostly in intercepting the EEC-related traffic being relayed between Bonn, London and Paris, in addition to monitoring other traffic for later sharing with the CIA on a case-by-case basis.

The largest domestic site is operated by the BfF from Husum — officially main it s test and proving site. Codenamed "Kastagnette", this site was constructed by the BND between 1988 and 1993, at a cost of 20 Million DM. Following modernisation of this and other sites, there followed the building of new stations. Most notably, those in:

— Bad Aibling (also the 2nd largest US eavesdropping site in Europe)
— Mietraching (codenamed Wildbore)
— and the site codenamed "Seeland"

This work often involved collaboration with the US, in particular, to build sophisticated troposcatter-based systems used to monitor Warsaw Pact traffic. What Soviet Molniya-series satellites transmitted to the East German groundstation in Wuensdorf, was found to be relayed to

command posts in Czechosolvakia and Poland. The troposcatter sites were used to monitor this traffic with ease. The facility at Bad Aibling is known to have provided first-hand intelligence to the BND when the 1991 anti-Gorbachov coup was about to take place, and followed the daily developments and movements of heavy military equipment.

However, the southern German sites weren't always directed at the East. They also monitored communications traffic to the Balkan states and those in the Middle East — especially Arab countries. Traffic carried in the underground cable systems that run through Germany, Austria, Switzerland and Italy were also routinely monitored. With the "Seeland" systems, the BND was capable of monitoring Soviet and other, more general traffic, and all independent of any US involvement. The BND was also very keen to take over the former US Field Agency Station in Gablingen, close to Augsburg. This was the largest eavesdropping site in Europe — a site equipped for worldwide monitoring. However, the site would have required at least 1,000 staff — a resource that the BND simply didn't have. The outcome appears to have been a partnership between the BND and it's US peers to operate the station.

The BND also has strong connections to its counterparts in the border security service, the BGS, who operate radio surveillance sites in the towns of Heimerzheim, Luebeck, Leer and Rosenheim. Many of these, and other BND sites are networked, and can be remotely controlled, for instance from the PTT offices in Mainz. Most of the current spend has contributed to the construction of sites for the monitoring of satellite communications, an area rapidly becoming more important than that of the corresponding terrestrial traffic.

4. BND Site Locations

The following table lists the locations of the BND sites mentioned in the article. ENIGMA would welcome any further information and/or confirmation of these sites.

Achern	12km NE Strasburg
Bad Aibling	4km W Rosenheim
Bad Muenstereifel	30km SW Bonn (Belgian border)
Gablingen	2km N Augsburg
Heimertzheim	8km W Bonn
Hoefen	20km SE Aachen (Belgian border)
Husum	3km W Schleswig
Krailling	4km SW Munich
Kreutzholzhausen	*Unknown*
Leer	SE Enschede (Dutch border)
Maising	Banks of Lake Starnberg, Bavaria
Mietraching	1km NW Bad Aibling
Pullach	5km S Munich
Rosenheim	6km S Munich
Stockdorf	*Unknown*
Tuetzing	Banks of Lake Starnberg, Bavaria
Wuensdorf	12km S Berlin

← Is this where the 2-letter stations originate

E.N.I.G.M.A. Bookshelf

SPYCATCHER
BY PETER WRIGHT
ISBN 0-440-29504-1, 1987, 496pp

Described as a must by Havana Moon, this controversial book was published in Australia by Peter Wright former Assistant Director of Britains security service MI5. The British Government led by then Prime Minister, Mrs Margaret Thatcher did everything possible to suppress publication of the book and it was never available in Britain other than as an import.

As a political view of intelligence facts, the main subject of the book seems to be providing the reader with the elements to prove that the Director of MI5 in the 1960's, Sir Roger Hollis, was the mysterious fifth man.

Burgess and Maclean, two British foreign office diplomats were Soviet agents in the UK during World War II and the subsequent period of the Cold War, Burgess was a relatively minor official. Maclean, as a member of MI6 with access to classified information, was a more damaging agent. In 1951, both defected to the Soviet Union, having been warned by another intelligence officer, Harold (Kim) Philby. Philby defected to the Soviet Union in 1963 when it was discovered he was the so called third man. In 1979 Anthony Blunt was named as the fourth man - a distinguished art historian and Surveyor of the Queen's Pictures - who had confessed to being an agent in 1964-
in return for a promise of secrecy and non-prosecution. Speculation still persists into the identity of a fifth man (the Soviet intelligence agencies speak of the magnificent five). KGB files have recently revealed Cairncross as the 'fifth' man.

A large part of these elements were gathered from radio communication intelligence conducted by Peter Wright and the scientific department he started up from scratch in MI5.

For the first time, here is a book about counter-intelligence written by a scientist, and even better (for ENIGMA readers) by a shortwave specialist. His father, in charge of research and development at Marconi, soon gave Peter an enthusiasm for shortwave communications

In this book you will learn how MI5 and GCHQ could gain evidence of reception by Lonsdale, another Soviet spy, of clandestine messages sent from Moscow, just by monitoring the radiation of the local oscillator of his SW receiver, how they could decode the secret messages after copying Lonsdales's one time pads, how they could eavesdrop all the secret messages sent by encrypted telex from the Egyptian and French embassies in London to their respective countries, and much more.....

In fact, you'll learn that the Numbers Station scene, emphasised during World War II by the secret communications between England and resistance movements in France,Belgium and The Netherlands, by the famous Lucy network in Switzerland, by the no less famous Red Orchestra operated in many Western countries and by the Richard Sorge network in Japan, never ceased at the end of the war.

In conclusion, one can say that the Numbers Stations on shortwave were, and still are, one of the major links between intelligence agencies and the under-cover agents throughout the World.

'Spycatcher' is certainly a 'must' read for those interested in the History of Espionage, and particularly for the shortwave readers of ENIGMA.

'Spycatcher' was only available in Britain as an imported item, several versions including those by Heinemann Australia, Dell Publishing USA and Viking Penguin are in circulation. Readers are advised to try second-hand book stores markets and fairs where copies of the paperback may be found selling at around £1.00 or £2.00.

Thanks to Marcel for this book review.

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ENIGMA NEWS FROM H.Q.

We hope that you are enjoying ENIGMA Newsletter, with the NEXT edition (8) - many readers will have completed the 4 issues of the subscription period, if your subscription is due for renewal you will receive a form and we would be grateful if you would complete and return it should you wish to receive a further 4 issues.

ENIGMA is a non-profit making non commercial association and any surplus funds are used to provide Newsletters for those readers who are unable to send money from their countries.

We appreciate all the letters news and information received and welcome articles and features for publication, we also welcome your comments about the quality of ENIGMA and ways in which it might be improved. Your logs are used not only to report new times and frequencies but also to confirm that others previously reported are still in operation.

We regret that we are unable to provide individual replies to all the letters we receive but rest assured we read, collate and store information for use in present and future editions. Anonymous information is regularly received and appreciated.

THANK YOU FOR YOUR SUPPORT AND INTEREST IN ENIGMA
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MORE ON ALPHA PHONETIC STATION - EZI

Following on from observations made on this station over Easter 1994, monitoring of the station has been continued and logged.

EZI is just one of many callsigns used by the Alpha Phonetic stations, and operates on seven regular frequencies. (See Table). These frequencies are spaced at roughly 2 MHz intervals and cover a large part of the short wave spectrum.

The station operates a regular schedule of transmissions, over a 24 hour period, with a gap between 2300 and 0530 UTC which is broken by a single transmission at 0100 UTC. Over the period of observation, March to November 1994, the schedule has remained largely unchanged.

The station transmits on two or more of the given frequencies at regular times, on the hour or half hour. The frequencies in use at any particular slot is largely predictable, although there have been some minor changes which would appear to be seasonal adjustments with regard for the changing propogation conditions, however, one or two changes have occurred which do not fit this pattern. These changes must be regarded as a re-allocation of the freq/time slot, presumably to a different target area. It may also be that some of these changes have been made to avoid interference problems.

To sum up, it would be safe to describe the EZI schedule as regular, but subject to a continuous process of "fine-tuning" and adjustment to maximise the use of the freq/time slots available.

As has been observed before, each of these slots is unique in that a message will never be heard repeated in another time slot, but will only be sent again in that same slot on the next, or over sucessive days.

Observation of the Table would appear to reinforce this, since at several times the frequencies in use change from high to low and back again, all within an hour or so - suggesting different target areas for these transmissions, . Similarly, some slots always receive messages, while others seem to receive few, or none at all, for days or weeks on end. These observations are particularly striking on looking at the Table.

During the period of observation, the following changes have been noted:-

0730 UTC - Use of 15 & 17 MHz dropped , 6 & 9 MHz started.
1200 UTC - Use of 17 & 19 MHz dropped , 13 & 15 MHz started.
1700 UTC - Use of 19 MHz dropped , 6 & 9 MHz started.
1730 UTC - Use of 6 & 9 MHz dropped , 11 & 13 MHz started.

NOTES OF SYMBOLS USED IN TABLE

(SPRING) - Freq used during spring - not currently in use
(MMMMMM) - In use until recently - not currently in use
* - indicates recent change - not previously in use
M - Message heard
2 - No Message sent (EZI 2)
1 - Test Broadcast heard (EZI 1)
SUS? - Believed in use - but not audible due to conditions
-------- - No transmission at this time on any frequency

ALPHA PHONETIC STATION EZI 24 HR SCHEDULE @ NOV 1994

TIME UTC	FREQUENCY - MHz						
	6.840	9.130	11.565	13.533	15.980	17.410	19.715
0000	--------	--------	--------	--------	--------	--------	--------
0030	--------	--------	--------	--------	--------	--------	--------
0100		2	22				
0130	--------	--------	--------	--------	--------	--------	--------
0200	--------	--------	--------	--------	--------	--------	--------
0230	--------	--------	--------	--------	--------	--------	--------
0300	--------	--------	--------	--------	--------	--------	--------
0330	--------	--------	--------	--------	--------	--------	--------
0400	--------	--------	--------	--------	--------	--------	--------
0430	--------	--------	--------	--------	--------	--------	--------
0500	--------	--------	--------	--------	--------	--------	--------
0530			MMMMM222	MMMMM222			
0600					MMMMMM	MMMMMM	
0630				M222222		M222222	
0700	--------		--------	--------	--------	--------	--------
0730	*MMM	*MMMM			(SPRING)	(SPRING)	
0800	--------	--------	--------	--------	--------	--------	--------
0830						MMMMMMMM	MMMMMMMM
0900	SUS?	2222222W				22222222	22222222
0930							
1000			MMMMMMMM	MMMMMMMM	--------	--------	--------
1030	--------	--------	--------	--------		22222222	22222222
1100					MMMMMMMM	MMMMMMMM	
1130							
1200				MMMM2221	MMMM2221	(SPRING)	(SPRING)
1230	--------	--------	--------	--------	--------	--------	--------
1300							
1330	MMMMMM22	MMMMMM22		MMMMMMMM	MMMMMMMM	MMMMMMMM	
1400	MMMMMMMM	MMMMMMMM					
1430						MMMMMMMM	MMMMMMMM
1500	--------	--------	--------	--------	--------	--------	--------
1530	22222222	22222222					
1600	--------	--------	--------	--------	--------	--------	--------
1630	MMMMMMMM	MMMMMMMM					
1700		*MMM		MMMMMMM2		MMMMMMM2	(MMMMMM)
1730	(SPRING)	(SPRING)	MMMMM221	MMMMM221			
1800		22222222	22222222				
1830	--------	--------	--------	--------	--------	--------	--------
1900	22222222	22222222					
1930	--------	--------	--------	--------	--------	--------	--------
2000	MMMMM221	MMMMM221					
2030	*MMM2222	*MMM2222					
2100		22222222	22222222		222		
2130	MMMMMMM2	MMMMMMM2					
2200	MMMMMM22	MMMMMM22					
2230	MM22222	MM22222					
2300		MMMMMM	MMMMMM				
2330	--------	--------	--------	--------	--------	--------	--------

INTERFERENCE

Most of the frequencies used by EZI are affected by some form of interference, here in the UK, at some time during the schedule. This can vary from mild background noise to total obliteration of the station. Since none of the EZI stations appear to be licenced, it would perhaps be more correct to say that EZI causes, rather than suffers from the various forms of interference, which are listed here!

6.840 MHz - During late afternoon used by oriental broadcast station.
9.130 MHz - Used daily at most times by Royal Naval Rtty Station - GYA
11.565 MHz - Used by Radio Pakistan (11.570 MHz) at 1700 UTC
13.533 MHz - Severe unidentified carrier - Data or "White Noise"
15.980 MHz - Same as 13.533 MHz

ODDITIES & ERRORS

Some of the Alpha stations have two or more of the Alpha callsigns sharing their frequencies. EZI, however, appears to have exclusive use of the frequencies shown. Several exceptions to this rule have nonetheless been observed, and are given below. It is believed that these were errors resulting from incorrect switching of the transmitters in use, but may possibly have some other purpose.

6.840 MHz - Sat Aug 13 1994 - 2045 UTC
CIO 2 sent 3 or 4 times at approximately 1 minute intervals

19.715 MHz - Sun Aug 14 1994 - 0940 UTC
CIO 2 sent 4 or 5 times - One singly, then the rest together 1 minute later

9.130 MHz - Sat Oct 29 1994 - 2245 UTC
EZI was sending a 100 Grp message starting at 2230 UTC. At 2245 UTC, CIO 2 was broadcast over the same carrier at equal audio strength for 1 to 2 minutes over the top of this message before going off the air. The EZI messsage then continued as normal. (This seems certainly to have been an error).

CONCLUSION

EZI works to a regular schedule operated over a 24 hour period. Two or more frequencies, from the seven available, are in use for each transmission, and are selected according to seasonal propogation and the target area for the particular transmission. The wide range of frequencies in use by this station, and also the selection of frequencies used for each transmission would seem to indicate that target areas for the transmissions vary considerably in distance.

This schedule may well be subject to some changes by the time it is published, but you should be able to use the Table to find EZI operating on at least one of the given frequencies at any of the times shown.

Brian Rogers - Crawley

ALPHA PHONETIC STATIONS

We hope you will find the attached information concerning EZI of interest, we are pleased to report the following frequencies, and comments.

2120 CIO 2270 JSR 2515 KPA 2628 FTJ 2743 ULX \2953 SYN

3150 PCD 3270 KPA 3417 ART 3640 VLB 3840 YHF

4165 SYN 4230 ??? 4270 PCD 4360 CIO 4463 FTJ 4560 YHF
4665 VLB 4780 KPA 4880 ULX

5060 JSR* 5091 JSR 5170 GBZ 5230 CIO 5339 OEM 5437 ART
5531 BAY 5629 SYN 5715 ZWL 5820 YHF

6270 ULX 6370 MIW 6500 PCD 6745 VLB 6840 EZI 6912 OEM

7323 KPA 7446 KPA 7540 JSR 7605 CIO 7613 GPO 7746 ULX
7918 YHF 7866 SYN

8127 MIW 8465 CIO 8641 MIW

9130 EZI 9402 YHF

10125 CIO 10352 VLB 10648 YHF 10820 VLB 10970 MIW

11565 EZI

12745 SYN 12950 MIW

13533 EZI 13921 CIO

14000 PCD 14750 MIW

15980 EZI

17170 CIO 17410 EZI 17966 ?

18178 CIO

19715 EZI

* 5060 JSR heard only once

5170 GBZ-J heard only twice

5531 BAY 7613 GPO may now be dead

Please continue to send in reports, the call-sign we have shown was the latest reported, so it is possible that it may have changed.

ENIGMA MORSE SUPPLEMENT PART THREE

By Mike Gauffman

We continue our survey of Morse Stations by covering some of the less conventional numbers transmissions which don't follow the habits of the 'typical' stations covered so far. Of all the confirmed voice numbers stations very few identify themselves with callsigns (legitimate or otherwise) - the only one doing so is OLX. Previously, we also had DFC37 & DFD21 and maybe the mysterious DFD25,78 and 79. However, there are certain morse stations, other than OLX, which use callsigns to give themselves an aura of legality. These callsigns are not necessarily 'genuine' and may be quite arbitrary. Some of the stations involved may not be numbers stations after all, but until we can verify their purpose it is wise to treat them as such. By far the largest users of arbitrary callsigns are the so-called pseudo-commercial beacons - a vast area in itself which we will cover in a future issue.

The remaining suspect stations use callsigns DEA47, 8BY, MPL, 4XZ, HEP, FDC, VDE, BTV and the series KKN/KRH/KWS..... of these, DEA47, 4XZ, FDC and the KKN series are legitimate callsigns, the rest are probably all bogus.

16. <u>DEA47</u> Originating at the Krumweg site at Husum, Shleswig-Holstein, this station operated for many years under the arbitrary callsign, ECJY. Eventually it was 'legitimised' as DEA47 on 20th January 1992. It moved from its old 9161 kHz frequency to 12283 & 13582 in parallel where it has remained ever since. In recent months its operation has become erratic, and no longer does it confine itself to 'office hours', and can sometimes now be heard late in the evening. When operating, transmission is continuous, sending its 'VVV de DEA47' marker in fast automatic morse occasionally interspersed with short messages.

17. <u>8BY</u> Callsign indicates Indonesian origin, which seems most unlikely. It is not registered with the I.T.U.. It operates on four parallel frequencies to the following schedule :

7668	New frequency-evenings
10248	18.40-07.00
12170	24 Hours (Moved from 12282)
14931	24 Hours
18415	24 Hours
20946	07.40-18.00

Transmissions begin every hour at H+40, however, sometimes at H+10 it briefly communicates with other stations which also use various arbitrary callsigns. Numerous 3F identifiers are used in the H+40 transmissions which conform to a complex system.

Readers may me interested to note that monitoring conducted in Singapore produced absolutely no trace of 8BY on any frequency at any time.

18. MPL Callsign indicates British origin, but this is unconfirmed. Operates daily at 13.20 UTC on 10180 kHz only.

Format : e.g. VVV MPL MPL 1/25 (one message of 25 5F groups)
or VVV MPL MPL QRU QRU $\overline{SK}$ $\overline{SK}$ (for about 2 minutes when no messages are to follow).

I once heard this station (Saturday 1.10.94) at 19.30 UTC sending fast 5F groups and ending $\overline{BT}$ QRU $\overline{SK}$.

19. 4XZ Officially controlled by Israeli Navy, its habits and form of traffic would seem to indicate that this is a cover for espionage activity. Operates 24 hours on several frequencies simultaneously - including : 2680, 2800, 9241.5, 4289, 4331, 6379, 8012, 8050, 8437, 8518, 10046, 12984, 14450, 14555, 14924, 15023, 15050, 17050, 17579, 18518, 18859, 19419, 19985, 20000.5, 20730, 22330.5, 23000.5, 23054.8 kHz.

20. FDC Officially French Air Force at Metz-Frascaty, but as with 4XZ this may merely be a cover. Frequencies noted : 2246.5, 2700, 3835, 4926, 5748, 6859.5, 7336, 7367, 7638, 7850, 8130, 8095, 10470, 11120, 14467 kHz.

21. HEP Behaves erratically usually sending marker VVV de HEP.
Rumoured to be Interpol, its callsign indicates Switzerland. Operates between 3 and 9.5 mHz, most recently heard on 5261. Becoming more elusive.

22. KKN Series These are all officially allocated to the United States Department, and almost certainly are CIA operations. KRH50 has operated since the early 1970's at least, from Barford St John in England, and uses 5426, 7724, 11142, 13545,13815, 16132, 20568 kHz.

23. VDE The most elusive of all these stations VDE has operated for many years on numerous frequencies between 4 and 9.5 mHz. Although it seems to show a preference for Sunday afternoons it has been heard on other days sending its marker : 'VVV VVV de VDE'. recent frequencies include 5585, 7546, 7562 (VDE-2), 8175, 9241 kHz. Its unallocated callsign would indicate Canada but this is unlikely.

Much more research is needed on all the stations detailed in this feature, which due to a lack of space we have only covered briefly. We hope to feature these in greater detail in the future.

Two pseudo-time signals using morse seem to be operating at present :

24. A companion for the 'Buzzer' on 4625, this one operates just a couple of kHz higher in frequency. Sending a 4F group indicating the time (adding 1 each minute). However, sometimes its groups are random and the same 4F group may be repeated incessantly for hours. In this mode, its groups bear no relation to the time. Even as a time signal it is not at all accurate and is sometimes upto 3 minutes out !. Operates at +2 hours to UTC.

25. A more interesting 'time signal' operates on a number of frequencies, often 2 in parallel. These include 2316, 2360, 3825, 4402, 5053, 5181, 5205, 5369.5, 6635, 6800, 7530, 8084 and possibly 18840 kHz. Several times I've heard 5181 in parallel with 5053 - too close to be linked with propagation considerations. It seems to operate 24 hours per day and has been heard at 03.00 on 2360 and 07.00 on 8084. Transmissions consist of a 14 character signal sent one a minute in very fast morse. This takes the form of :

$\overline{BT}$ 99XXXX??F?????

where XXXX represents the time - either 2, 3 or 4 hours ahead of UTC. ? is an actual question mark sent in morse. F is a single figure. Occasionally, between these minute intervals, upto ten 14F semi-random groups are sent. First heard on 6th May 1994 the station has continued ever since.

Now onto a couple of newcomers :

26. <u>The 98 Station</u> I first heard this in early October on 4445//5170 sending 98 followed by two 5F groups, continually. The first group is often related to following first groups e.g. 02588 02562 etc. the second group is often 11111 but sometimes 1, 2 or 3 ones are replaced by other figures. Also heard on 3154 3159. sends at 11 w.p.m. and uses long zero.

27. <u>BTV (MCW VERSION OF Y.T.).</u> To bring us back to relative sanity we'll finish with this one, the new morse version of the voice station YT. Like its voice counter-part this transmits every Monday & Wednesday on 4424 kHz, but at 18.10 UTC. Until 18.15 YT's are sent in slow MCW. Then CQ CQ CQ de BTV BTV BTV QTC VVV is sent until 18.20. This is followed by NW QTC NW QTC (now, messages to follow), after which a message list is sent e.g. 512/134/273/905, twice. Then 512/19 and 19 single 5F groups follow ending in $\overline{AR}$. Then 134's message begins in a similar way, etc. Whole transmission ends $\overline{AR}$ $\overline{SK}$

Group counts never exceed 22, in common with its voice version. The carrier remains on until 18.55 when YT's begin sending for the voice messages to follow. Unlike its voice counter-part BTV does not send its messages at rigid 5 minute intervals-they immediately follow one another.

SORRY.....Due to a printing error some readers did not receive the following information on Single Letter High Frequency Beacons in our Morse Suppliment Part 2, we have included it again for all reader.

SINGLE LETTER BEACONS (MX)

These appear to fall into 3 distinct families -

1) The F.S.K. markers, now no longer with us, K & U's only

2) The I.C.W. 'cluster beacons' of which only S & C still remain, but used to included A D G K L N O P V Z ..-- and ---.
These 'cluster beacons' lived together in narrow bands (originally 4 kHz wide) throughout the H.F. spectrum.

3) The I.C.W. solitary beacons which have always operated singly out of these bands. Some of those like V's & R's take up long term residence on their channels. Others only appear for short periods, only to reappear months or even years later.
These have been logged on numerous frequencies between 3091 & 20970 kHz.

A possible 4th family, although by no means single letter, are the so-called 'pseudo - commercial' beacons and pseudo - time signals, these may well serve a similar purpose.

Despite the lack of material, much information has been gleaned concerning these mysterious transmissions, which future articles will cover.

In the meantime here's a list of family 2 & 3 beacons logged in the period May 1993 to July 1994.

CLUSTERS

<u>BEACON S</u>

5305.2 7038.8 8494.8 10871.9 13635.9 17015.9 20991.7

<u>BEACON C</u>

5305.4 7039.0 8495.0 10872.0 13636.0 17016.0 20992.0

<u>BEACON D</u>

Active in early 1994 in these clusters, but no longer operates

All the above transmit simultaneously.

SOLITARIES (Regular)

BEACON R 3196//7452 24 hours per day

BEACON V 9162//5205 In Summer 24 hours possibly

5205//4570 In Winter 24 hours possibly

V Beacons are unique in that the spacing between 'V's varies irregularly and is quite noticeable over a short period. They also occasionally send VI instead of V.

(Irregular)

BEACON F 4040 slow

BEACON L 3090-3096 region (variable) pronounced chirp to signal at times.

BEACON P 3182//3213 also 3167 3181 3262 3416 3806 3938 4080 4605 6500 5858 (drifts)

BEACON V 3174 3181 3658 10457 10284 16273

BEACON .-.- 9160 is the Cyrillic R (pronounced 'yah')

BEACON C 6938 7039 10612

Many more certainly exist but, appear only for short periods, they can easily be missed. We have received a good selection of information from readers about SLB's for future publication.

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THE TWO DAY - WONDER

M5) DID YOU HEAR THIS STATION ?- PLEASE LET US KNOW
A new station appeared on Tuesday 5th October 1993 with a unique 6F format. Operating almost continuously it began on Tuesday morning and disappeared on Wednesday evening- coinciding with the Russian Coup taking place in Moscow. Its colossal signal strength on the lower frequencies would indicate a location in Britain. Its general format consisted of four non-random 6F groups ending with six zeroes and stroke. This repeating continuously.

Throughout the day the groups would change in random fashion and occasionally groups of letters were sent. The number groups contained a large number of double figures. The letter groups included even more repeated letters.

It used MCW modulated at 800 Hz on a continuous carrier, and sent very slowly with an auto-keyer. (The sending of the 6 zeroes alone took 23 seconds !).

It used two parallel frequencies & operated the following schedule :-

UTC	08.00-14.00	9240/7883	15.00-19.00	5207/4620
	19.00-00.00	3130/2688	01.00-08.00	4044/4620

The following log extract will give an idea of its complexity
5th October

(06.30) '520768 996868 960822 345570 000000/'
(11.00) '665804 825770 480472 561742 000000/'
(12.00) 'KKK 570976 644864 804199 314468 000000/'
Over the next 15 minutes the number of K's varies from 1 to 3.

(12.32) after 000000/ - K FFFJEE II PY QWRRYE WWWPIR
QTPOWP PPPPPP ' FFFJEE II PY FFFJEE IIP FFFJEE
II' break.
(12.45) '338806 124463 222084 105920 000000 XX'
Number of X's varies e.g. 1,2,3,3,3,0...none by 14.35.
(replace stroke).
(13.30 as 12.45 but wideband jamming (+/- 10 kHz) on both frequencies. Jamming stopped at 14.00 exactly).

(15.00) Same message as above.
(17.00) '638241 528081 195209 771857 000000/ until 19.00
(19.00) '308443 474288 849777 483333 000000 Q(replaces/)
(20.00) '358042 808993 000982 322292 000000/'

Wed 6th October
(06.30) '932141 217649 102574 322292 000000/'
(07.30) '732131 217649 102574 322292 000000/'
(08.15) same as 06.30.....

Unlike the 'Count Control station the order of the 6F groups would seem to be significant due to the 000000 'end signal.
On Wednesday groups began to carry over.

(by M.G.)